Pilot Evaluations of General Education Outcomes: Quantitative Analysis Report, 2003

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Columbia State
COMMUNITY COLLEGE

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Introduction

The portfolio assessment committee at Columbia State Community College evaluates general education using samples of student work from different disciplines. Quantitative analysis (or math) was the area of evaluation this year. The committee selected a pool of students to participate. These students were given the choice of solving one of three word problems, and were instructed to include paragraphs describing how the problem was solved and to provide clear and concise explanations.

Outcomes Statement

Upon obtaining an associate's degree from Columbia State Community College, a student should be able to:

1. Identify and extract relevant numerical information in a world problem.
2. Select or develop a model appropriate to the problem which represents the data by means of an equation, table, graph or chart.
3. Obtain and describe a mathematically correct result, with or without technological assistance.
4. Draw inferences from the results or data employed to:
    a. Describe a trend.
    b. Make predictions based on that trend or significant data.
    c. Describe important mathematical feature of the model used in obtaining the results.
    d. Draw qualitative conclusions about the original situation based on the quantitative results that were obtained.

Rubrics

The students' artifacts will be scored using the following rubrics:

4 = All four major outcomes are demonstrated.
3 = Three major outcomes are demonstrated.
2 = Two major outcomes are demonstrated.
1 = Only one major outcome is demonstrated.
0 = No major outcomes are demonstrated.

Findings

The following tables provide score statistics for 87 students participating in the quantitative analysis evaluation, and for which demographic and other academic information is available. These students obtained a mean score of 2.9 (on a 4-point scale) and a standard deviation of 1.13 points.

Table 1. Frequency Distribution of Scores

	Frequency	Percent	Cumulative Percent
All four major outcomes are demonstrated.	34	39.1	39.1
Three major outcomes are demonstrated.	19	21.8	60.9
Two major outcomes are demonstrated.	23	26.4	87.4
Only one major outcome is demonstrated.	9	10.3	97.7
No major outcomes are demonstrated.	2	2.3	100.0
Total	87	100.0	

Table 2. Student Count by Score and Race

	Black	White	Total
All four major outcomes are demonstrated.	3	31	34
Three major outcomes are demonstrated.		19	19
Two major outcomes are demonstrated.		23	23
Only one major outcome is demonstrated.	1	8	9
No major outcomes are demonstrated.		2	2
Total	4	83	87

Table 3. Student Count by Score and Gender

	Female	Male	Total
All four major outcomes are demonstrated.	28	6	34
Three major outcomes are demonstrated.	13	6	19
Two major outcomes are demonstrated.	19	4	23
Only one major outcome is demonstrated.	5	4	9
No major outcomes are demonstrated.	1	1	2
Total	66	21	87

Table 4. Student Count by Score and Load

	Full-time	Part-time	Total
All four major outcomes are demonstrated.	30	4	34
Three major outcomes are demonstrated.	15	4	19
Two major outcomes are demonstrated.	20	3	23
Only one major outcome is demonstrated.	8	1	9
No major outcomes are demonstrated.	2		2
Total	75	12	87

Table 5. Student Count by Score and Credit Hours

	Less than 15	15 and Less than 30	30 and Less than 60	60 and More	Total
All four major outcomes are demonstrated.	9	7	14	4	34
Three major outcomes are demonstrated.	3	4	6	6	19
Two major outcomes are demonstrated.	5	6	11	1	23
Only one major outcome is demonstrated.	3	3	1	2	9
No major outcomes are demonstrated.	2				2
Total	22	20	32	13	87

Table 6. Student Count by Score and Developmental Credit Hours

	0 Hours	4 Hours	Total
All four major outcomes are demonstrated.	34		34
Three major outcomes are demonstrated.	19		19
Two major outcomes are demonstrated.	22	1	23
Only one major outcome is demonstrated.	9		9
No major outcomes are demonstrated.	2		2
Total	86	1	87

Table 7. Student Count by Score and Previous Registration Status

	First-Time	Returning	Readmitted	Pre-College	Total
All four major outcomes are demonstrated.	9	23	1	1	34
Three major outcomes are demonstrated.	3	14	2		19
Two major outcomes are demonstrated.	6	14	3		23
Only one major outcome is demonstrated.	3	6			9
No major outcomes are demonstrated.	1		1		2
Total	22	57	7	1	87

Table 8. Student Count by Score and Major Code

	All four major outcomes are demonstrated.	Three major outcomes are demonstrated.	Two major outcomes are demonstrated.	Only one major outcome is demonstrated.	No major outcomes are demonstrated.	Total
13.21.0101.01	1					1
16.24.0101.01	21	12	15	7	1	56
31.51.0000.00	8	4	4	1	1	18
31.51.0808.00	1	2	2	1		6
31.51.0908.00	1					1
32.52.1201.00	1					1
32.52.9999.05		1	2			3
Non-Degree	1					1
Total	34	19	23	9	2	87